

RECEIVED
CENTRAL FAX CENTER
SEP 13 2006

AMENDMENTS TO THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an ~~an~~ aerodynamic bearing is disposed along a length of said shaft;

a rotor on said outer circumferential part of said sleeve;

a hub disposed against an upper portion of said rotor and said sleeve;

a plurality of permanent magnets on said rotor; and

a coil on said base and surrounding an outer circumferential part of said rotor;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

F7987 am U3 (PC14).wpd

Docket No. F-7987

Ser. No. 10/673,780

2. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft, separated from said shaft only by a gas volume;

a coil disposed on said base, said coil surrounding an outer circumferential part of said sleeve, said coil being disposed axially collinear with said sleeve;

a rotor on an outer circumferential part of said coil;

a plurality of permanent magnets on said rotor; and

a hub supporting an upper portion of said sleeve and said rotor, said hub covering surrounding an upper portion of the shaft and an outer circumferential part of said rotor;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

3. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

Docket No. F-7987

Ser. No. 10/673,780

a sleeve, projecting upwardly and downwardly from said base at a point adjacent a central portion of said base, a portion of said sleeve being surrounded by said base;

a shaft positioned in said sleeve;

a gas volume, between said shaft and said sleeve, defining an aerodynamic bearing;

a rotor on an outer circumferential part of said sleeve;

a plurality of permanent magnets on said rotor; and

a coil surrounding an outer circumferential part of said rotor;

a first magnet attached to an axial bottom segment of said sleeve, said first magnet being a thrust magnet; and

a second magnet attached to an axial bottom of said shaft, which acts as a brake for said first magnet.

4. (Previously Presented) The motor with an aerodynamic bearing according to claim 1, further comprising:

a hub, supporting said sleeve and said rotor and covering an upper portion of said shaft; and

a back yoke attached to said hub, such that said back yoke is positioned around an outer circumferential part of said coil.

Docket No. F-7987

Ser. No. 10/673,780

5. (Previously Presented) The motor with an aerodynamic bearing according to claim 4, further comprising:

a color wheel attached to one of said hub and said back yoke, projecting outward along a direction of said shaft core and a right angle to said shaft; and

wherein:

said coil is a coreless waveform continuation coil;

said back yoke is located around an outer circumferential part of said coil;

and

said hub supports said sleeve, said rotor and said back yoke

6. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an ~~anan~~ aerodynamic bearing is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

Docket No. F-7987

Ser. No. 10/673,780

a coil on said base and surrounding an outer circumferential part of said rotor;

a back yoke surrounding a circumferential part of said coil;

a hub, supporting said back yoke, said sleeve, and said rotor, and covering an upper part of said shaft;

a holder connected to said ~~back hub yoke~~ and projecting outwardly along a direction of a core of said shaft and at a right angle to said shaft;

a color wheel connected to said holder;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

7. (Previously Presented) The motor with an aerodynamic bearing according to claim 6, wherein said coil is a coreless waveform continuation coil.

8. (Previously Presented) The motor with an aerodynamic bearing according to claim 6, wherein said first and second magnets are thrust magnets.

9. (Previously Presented) The motor with an aerodynamic bearing according to claim 6, wherein said at least one permanent magnet on said rotor surrounding said

Docket No. F-7987

Ser. No. 10/673,780

outer circumferential part of said sleeve and at said outer circumferential part of said shaft, said gas-containing volume, and said coil are positioned in such a way relative to one another so as to dissipate excess generated torque and prevent damage to said shaft and said sleeve.

10. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only ~~an~~ ~~anan~~ aerodynamic bearing is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor;

a back yoke surrounding a circumferential part of said coil;

a hub, supporting said back yoke, said sleeve, and said rotor, and covering an outer circumferential part of said back yoke;

a holder connected to said yoke ~~hub~~ and projecting outwardly along a

Docket No. F-7987

Ser. No. 10/673,780

direction of a core of said shaft and at a right angle to said shaft;

a color wheel connected to said holder;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

11. (Cancelled)

12. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an ~~anan~~ aerodynamic bearing is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor;

Docket No. F-7987

Ser. No. 10/673,780

a back yoke attached to said base;

a hub, supporting said sleeve, and said rotor, and covering an outer circumferential part of said back yoke;

a color wheel attached to an outer circumferential part of said sleeve;

a holder projecting outwardly along a direction of a core of said shaft and a right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

13. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an ~~anan~~ aerodynamic bearing is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

at least one permanent magnet on said rotor;

Docket No. F-7987

Ser. No. 10/673,780

a coil on said base and surrounding an outer circumferential part of said rotor;

a back yoke surrounding an outer circumferential part of said coil;

a hub, supporting said sleeve, and said rotor, and covering an entire outer circumferential part of said back yoke;

a holder projecting outwardly along a direction of a core of said shaft and a right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

14. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft so that only an ~~an~~ aerodynamic bearing is disposed along a length of said shaft;

a rotor surrounding an outer circumferential part of said sleeve;

Docket No. F-7987

Scr. No. 10/673,780

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor;

a hub, supporting said sleeve, and said rotor, and covering an outer circumferential part of said coil;

a color wheel attached to an outer circumferential part of said sleeve;

a holder projecting outwardly along a direction of a core of said shaft and a right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

15. (Previously Presented) A motor with an aerodynamic bearing comprising:

a base;

a shaft projecting upwardly from said base at a point adjacent a central portion of said base;

a sleeve on an outer circumferential part of said shaft;

a gas-containing volume between said sleeve and said outer circumferential part of said shaft, defining an aerodynamic bearing;

a coil on said base;

Docket No. F-7987

Ser. No. 10/673,780

a rotor surrounding an outer circumferential part of said coil;
at least one permanent magnet on said rotor;
a back yoke attached to an outer circumferential part of said sleeve;
a hub, supporting said back yoke, said sleeve, and said rotor;
a holder connected to said yoke hub and projecting outwardly along a direction of a core of said shaft and at a right angle to said shaft;
a color wheel attached to said holder;
a first magnet attached to a concavity of an upper part of said hub; and
a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

16. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;
a sleeve;
a sleeve, projecting upwardly and downwardly from said base at a point adjacent a central portion of said base, a portion of said sleeve being surrounded by said base;
a shaft projecting into said sleeve;
a gas-containing volume between said sleeve and said outer circumferential part of said shaft, defining an aerodynamic bearing;
a rotor surrounding an outer circumferential part of said sleeve;

Docket No. F-7987

Ser. No. 10/673,780

at least one permanent magnet on said rotor;

a coil on said base and surrounding an outer circumferential part of said rotor;

a back yoke surrounding a circumferential part of said coil;

a hub, supporting said shaft, said rotor and said back yoke, and covering an outer circumferential part of said sleeve;

a color wheel attached to an outer circumferential part of said sleeve;

a holder projecting outwardly along a direction of a core of said shaft and a right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

17. (Currently Amended) A motor with an aerodynamic bearing comprising:

a base;

a sleeve, projecting upwardly and downwardly from said base at a point adjacent a central portion of said base, a portion of said sleeve being surrounded by said base;

a shaft projecting into said sleeve;

a gas-containing volume between said sleeve and said outer circumferential

Docket No. F-7987

Scr. No. 10/673,780

part of said shaft, defining an aerodynamic bearing;

a coil on said base;

a rotor surrounding an outer circumferential part of said coil;

at least one permanent magnet on said rotor;

a back yoke disposed adjacent ~~attached~~ to an outer circumferential part of said sleeve;

a hub, supporting said shaft, said rotor and said back yoke, and covering an outer circumferential part of said sleeve;

a color wheel attached to an outer circumferential part of said sleeve;

a holder projecting outwardly along a direction of a core of said shaft and a right angle to said shaft;

a first magnet attached to a concavity of an upper part of said hub, said first magnet being a thrust magnet; and

a second magnet attached to an upper portion of said shaft, which acts as a brake for said first magnet.

18. (Cancelled)